



# *X-Plain™*

## *Endometriosis*

### Reference Summary

Endometriosis is a common medical condition that affects about 1 out of every 10 women.

Technology and medicine have made it possible to reduce the symptoms suffered by women with endometriosis.

This reference summary will help you understand endometriosis better and review some treatment options.



#### **Anatomy**

The female reproductive organs include:

- the vagina
- the uterus
- the fallopian tubes
- the ovaries

The female reproductive organs are located in the pelvis, between the urinary bladder and the rectum.

The ovaries have 2 main functions:

The production of specialized hormones, such as estrogen and progesterone.

Ovulation, which is the release of eggs that are needed for reproduction.

The hormones produced by the ovaries are very important in keeping ovulation regular. These hormones also prepare the inner lining of the uterus to proceed with a pregnancy.

When an egg is released, it goes down to the uterus through the fallopian tube, where it may be fertilized. If the egg is not fertilized, the egg and the inner lining of the uterus are discharged to the outside of the body during the menstrual period.

The uterus is pear shaped. It is about 3 inches long and it has 3 layers. The inner layer of the uterus is called the endometrium.

Once a month, if a woman does not become pregnant and the ovaries are functioning correctly, the endometrium is shed to the outside of the body during the menstrual period.

As menopause approaches, periods become irregular and eventually stop. Menopause occurs when the ovaries quit making hormones and releasing eggs.

When a woman gets pregnant, the fetus stays in the uterus until it is delivered. The uterus is able to expand greatly in size. The middle, muscular layer of the uterus creates labor contractions, which cause the baby to be born.

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The outer layer of the uterus is called the serosa. The lowest part of the uterus is called the cervix, which opens into the vagina. The vagina opens to the outside of the body between the urethra, which is the urinary bladder opening, and the rectum.

On the inside of the body, the two fallopian tubes go from each side of the uterus to the ovaries.

The uterus is held in place with ligaments that help to prevent it from slipping down into the vagina.

The urinary bladder is located in front of the vagina and uterus. The kidneys drain urine into the bladder through 2 tubes called ureters.

The intestines and the rectum are located above and behind the vagina and uterus.

The pituitary gland, which is located at the base of the brain, controls the ovaries. The pituitary gland secretes hormones called LH and FSH, which cause the ovaries to secrete their own hormones called estrogen and progesterone.

The pituitary gland is controlled by the hypothalamus, a small area in the brain located just above the pituitary in the center of the brain. The hypothalamus secretes a hormone called Gn-RH, which causes the pituitary gland to secrete its hormones.

## Causes

Endometriosis occurs when endometrial tissue covers parts of the serosa of the uterus, the outside of the colon, the bladder, and the lining of the abdomen. This endometrial tissue is the same as the tissue that lines the inside of the uterus.

During the menstrual cycle, misplaced endometrial tissue goes through the same changes

as the endometrium in the uterus. This leads to any of the following symptoms:

- cramps
- pain in the abdomen
- pain during urination
- pain on passing bowel movements
- back pain
- pain during sexual intercourse

Symptoms of endometriosis may occur during the menstrual period or at any other time during the menstrual cycle.

Over time, scarring may show up in and around the pelvis, ovaries, and fallopian tubes. This scarring can prevent eggs that are released from the ovaries to make it into the fallopian tubes, which could result in infertility or the inability to get pregnant.

About 30 to 40% of women with endometriosis have fertility problems. Infertility may be related to the scarring around the ovaries and fallopian tubes.



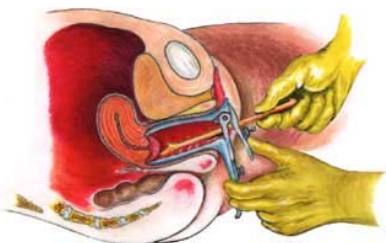
Researchers are not sure what causes endometrial tissue that is usually inside the uterus to be outside of the uterus in the pelvic cavity. Some think that during the menstrual period, pieces of tissue may flow back through the fallopian tubes into the abdomen, instead of go-

ing to the outside of the body through the vagina.

## Diagnosis

To diagnose endometriosis, the gynecologist must take a very detailed history of symptoms. He or she will need to know exactly where the pain is felt, what kind of pain there has been, and its timing in relation to your menstrual cycle.

A physical examination, including a pelvic exam, must also be done to diagnose endometriosis.



Blood and urine tests may be necessary to make sure that other diseases, such as infections or kidney problems, are not the reason for the symptoms.

An ultrasound of the pelvis may be done to make sure that the symptoms are not caused by a tumor in the uterus. An ultrasound lets the doctor look at the uterus and ovaries to make sure that they look normal. Unfortunately, endometriosis does not show up on an ultrasound.

The only way endometriosis can be seen is by doing a laparoscopy. A laparoscopy is a surgical procedure used to look at the inside of the abdomen using special scopes.

During a laparoscopy, the doctor is able to take small samples of the abnormal tissue to make sure it is endometrial tissue and not cancer.

If the doctor finds an abnormal spot, he or she may remove the whole thing or just a piece of

it. The removed tissue will be sent to a pathologist to be tested.

## Treatment

Treatment of endometriosis is a combination of medical and surgical treatment.

Hormones may be given to the patient to prevent her from having a normal menstrual cycle and, therefore, prevent abnormal endometrial tissue from growing and scarring. Such hormonal treatments may target the ovaries, the pituitary gland, or the hypothalamus and they usually cause menstruation to stop.

The gynecologist will discuss the recommended medication and its potential side effects. The side effects are usually very well tolerated.

In addition to diagnostic laparoscopy, which is used to diagnose endometriosis, other procedures such as laparotomy or surgical laparoscopy may be performed to remove some abnormal tissue and to reduce scarring that endometriosis may have caused.

Surgical laparoscopy is an operation to look at the inside of the abdomen and pelvis using small incisions and scopes.

Laparotomy is an operation where a bigger incision is made allowing the doctor to look directly into the abdomen and pelvis.

To help control the pain, the gynecologist may be able to cut a nerve in the pelvis that goes to the uterus. The procedure is known as laparoscopic uterine nerve ablation or LUNA. This may help with the pain but it is usually irreversible.

An operation to remove the uterus and possibly the ovaries may be recommended if:

- operations to remove abnormal tissue and scarring do not help

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- the patient is not improving with medical treatment

The infertility problem may sometimes be solved after surgery.

If all else fails in-vitro fertilization or IVF may be needed to help the patient conceive.

### **Living With Endometriosis**

Living with endometriosis can be difficult, even with the best available treatment. The following are a few suggestions that can make endometriosis bearable.

Understanding the disease helps many women to cope with it. Sharing feelings with friends and loved ones may also help.

Endometriosis may require the woman to limit sexual relations. Good communication will help her sexual partner understand the disease better. For example, using certain sexual positions that are not painful is one way to accommodate for the disease.

During days when the symptoms are very bad, the patient may need to abstain from sexual intercourse and instead, the couple may express love for each other in alternative ways.

It is extremely important that the gynecologist is aware of the severity of the pain. He or she may recommend over-the-counter pain medications, such as aspirin or ibuprofen. Sometimes, stronger medications can be prescribed for days with very intense pain.

To relieve pain, patients may wish to:

- take a hot bath
- use warm compresses
- use heating pads

### **Summary**

Endometriosis is a common condition. Fortunately, recent medical advances have helped improve the quality of life for women affected by it.

It is very important to tell your gynecologist about any pain you may be feeling. The sooner endometriosis is found, the sooner the pain can be managed.